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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,828	11/28/2000	Masanobu Ninomiya	107971	5519

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EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 11/06/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,828

Applicant(s)

NINOMIYA et al

Examiner

J. DOTE

Group Art Unit

1756

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 9/9/02
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-15 is/are pending in the application.
- Of the above claim(s) 14, 20 is/are withdrawn from consideration.
- ☒ Claim(s) 1-6, 12 is/are allowed.
- ☒ Claim(s) 7-10, 13, 15-19 is/are rejected.
- ☒ Claim(s) 11 is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____

☐ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

1. The examiner acknowledges the amendment to claim 1 filed in Paper No. 8 on Sep. 9, 2002. Claims 1-20 are pending.

2. The objections to the specification set forth in the office action mailed May 8, 2002, Paper No. 6, paragraph 4, items (1)-(3), have been withdrawn in response to the replacement paragraphs filed at pages 13, 31, 33, and 34 of the specification, and the amendments to Tables 3, 4, and 7 filed in Paper No. 8.

The objection to claim 1 set forth in Paper No. 6, paragraph 5, has been withdrawn in response to the amendment to claim 1.

The rejection of claims 1-4, 6, and 12 under 35 U.S.C. 103(a) over US 5,250,382 (Shimojo) combined with US 5,079,123 (Nanya), set forth in Paper No. 6, paragraph 8, has been withdrawn in response to the showings in the Rule 132 declaration, executed by Masanobu Ninomiya on Aug. 22, 2002, filed in Paper No. 8 on Sep. 9, 2002. The declaration shows that Shimojo's toner in Shimojo's example 31 exhibits a ratio $[W(5 \times 10^3)/W(1 \times 10^5)]$ of 13.4, which is outside the range of 15 to 50 recited in instant claim 1.

The terminal disclaimer filed on Sep. 9, 2002, attached to Paper No. 9, disclaiming the terminal portion of any patent granted on this application which would extend beyond the

expiration date of any patent granted on US application 09/706,800, now US 6,444,389, has been reviewed and is accepted. The terminal disclaimer has been recorded. Accordingly, the provisional rejection of claims 1-12 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 09/706,800, set forth in Paper No. 6, paragraph 10, has been withdrawn.

3. The disclosure is objected to because of the following informalities:

(1) Examples 6 and 7 and comparative examples 4, 5, and 7 use WAX D or WAX E. However, the specification does not identify WAX D or WAX E. See Table 6 at page 39.

(2) The specification at page 45, line 24, and at page 46, line 7, discloses that the toners in comparative examples 6 and 7 comprise a value of the "differential molecular weight" of the molecular weight 1×10^6 larger than 0.15%. However, Table 7 at page 43 reports that said toners comprise a value of the differential molecular weight of the molecular weight 1×10^5 larger than 0.15%.

Appropriate correction is required.

Applicants did not address the objections in Paper No. 8.

4. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,250,382 (Shimojo) combined with US 5,079,123 (Nanya).

Shimojo discloses a two-component developer comprising a carrier and a toner comprising a colorant and a binder resin. The binder resin comprises a domain-matrix structure. The domain comprises a domain resin having a Mw of 12,000 and a ratio of Mw/Mn of 2.4. The matrix comprises a matrix resin having a Mw of 21,000 and a ratio of Mw/Mn of 3.1. The domain and matrix are present in a weight ratio of 50:50. See example 31 at col. 71, and binder resin 28 in Table 22 at cols. 69-70. The domain resin and matrix resin are within the molecular weight limitations of binder resins (A) and (B), respectively, recited in instant claim 8.

Shimojo does not disclose that his toner has the molecular weight-by-GPC properties of the THF-dissolved components of the toner recited in instant claim 7. However, the instant specification discloses that by using a binder resin comprising binder resins (A) and (B) having the molecular weight limitations recited in instant claim 8 at a ratio of from 2:8 to 8:2, a toner having the molecular weight properties recited in instant claim 7 "can be suitably prepared." See the instant specification, page 15, lines 22-25, and examples 5, 6, and 7. Because Shimojo's toner comprises a domain resin and a matrix resin that

are within the limitations of resins (A) and (B) recited in instant claim 8, and are present in a weight ratio of 50:50, it is reasonable to presume that Shimojo's toner has the molecular weight requirements recited in instant claim 7. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Shimojo's toner in example 31 does not comprise a wax as recited in the instant claims. However, Shimojo discloses that a wax can be added to the toner for the purpose of improving the anti-offset properties of the toner. Col. 17, lines 18-20. Shimojo further discloses that the wax preferably melts not lower than 50°, and that it can be a carnauba wax. Col. 17, lines 21-25 and 61.

Nanya discloses the advantages and disadvantages of using conventional carnauba wax. Col. 1, lines 61-65, and col. 2, lines 3-11. Nanya discloses that these disadvantages may be overcome by using a carnauba wax "substantially free of aliphatic acids." Nanya discloses that the content of the aliphatic acids in the carnauba wax is preferably less than 1 wt%. Nanya, col. 2, lines 14-34, and 44-45. Nanya discloses that due to the substantial absence of the aliphatic acids, the size of the wax crystals decreases to 1 μ m or less, when dispersed in the binder resin, which is much smaller than the crystal size of conventional carnauba wax. Nanya discloses that

for this reason, a toner comprising the carnauba wax substantially free of aliphatic acids is free from filming problems and exhibits high resistance to both off-set and "winding phenomena." Col. 2, lines 46-57. Nanya further discloses that said toners have a lower fixing temperature and provide images with no background stain. Col. 2, lines 17-21. Nanya exemplifies the use of carnauba waxes "substantially free of aliphatic acids" having a melting point of 83°C. See example 1. The melting point of 83°C is within the range of 70 to 100°C recited instant claim 9.

Nanya does not disclose that his carnauba wax has a melt viscosity as recited in instant claim 10. However, the instant specification in Table 6 at page 39, discloses a granular purified carnauba wax having a melting point of 83°C and a melt viscosity at 110°C of 50 mPa·sec, which meets the viscosity limitation recited in claim 10. Because Nanya's carnauba wax appears to be the same as that disclosed in the instant specification, it is reasonable to conclude that Nanya's carnauba wax has a melt viscosity that meets the viscosity recited in instant claim 10. The burden is on applicants to prove otherwise. Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Nanya, to use Nanya's carnauba wax "substantially free of aliphatic acids" in

Shimojo's toner, because that person would have had a reasonable expectation of successfully having a developer having the benefits disclosed by Nanya.

Applicants' arguments filed in Paper No. 8 have been fully considered but they are not persuasive.

Applicants assert that Shimojo fails to disclose a toner having the molecular-by-weight GPC properties of the THF-dissolved components recited in the present invention. However, for the reasons set forth in the rejection, it is reasonable to presume that the Shimojo's toner has the molecular weight requirements recited in instant claim 7. Applicants have not come forward with any objective evidence to show otherwise. The Rule 132 declaration filed in Paper No. 8 only shows that Shimojo's toner in Shimojo's example 31 does not possess the ratio $[W(5 \times 10^3)/W(1 \times 10^5)]$ of from 15 to 50 recited in instant claim 1. The declaration fails to show that the molecular weight-by-GPC properties of Shimojo's toner are outside the ranges recited in instant claim 7. Accordingly, the rejection stands.

5. Claims 1-6 and 12 are directed to an allowable product. Pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), claims 13 and 15-19, directed to the process of making or using the patentable product, previously withdrawn from consideration as a result of a

restriction requirement, are now rejoined. Process claims 13 and 15-19 have been fully examined for patentability under 37 CFR 1.104. In accordance with the Official Gazette notice, *supra*, process claims 14 and 20, which do not depend from or otherwise include all the limitations of the allowable product, have NOT been rejoined.

Accordingly, claims 14 and 20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicants timely traversed the restriction requirement in Paper No. 5.

6. The disclosure is objected to because of the following informalities:

(1) The specification at page 8, line 10, discloses that the toner image on the recording paper has a glossiness (75 degree of gloss) of from 40 to 50. However, the specification at page 26, line 15, discloses that the fixed image on the recording paper has a glossiness (75 degree of gloss) of from 40 to 60.

(2) The specification at page 8, lines 18-19, and page 24, line 13, discloses a pressure roller and a heat roller having an Asker C rubber hardness of from 55 to 85 degrees. The specification at page 8, line 24, and page 24, line 10, discloses

a pressure roller and a heat roller having an elastic layer having an Asker C rubber hardness of from 10 to 40 degrees. The instant specification does not disclose how the Asker C hardness is determined, let alone any standard used to determined the hardness. As shown in the prior art, there is more than one standard to determine Asker C hardness. See, for example, US 6,052,549 (Shimura). Shimura at col. 4, lines 32-38, defines its ASKER C hardness as that "measured by a spring type ASKER C hardness meter (manufactured by Kobunshi Keiki K.K.) according to JIS K6050. In the present invention, the hardness is measured under a load of 500 g directly for an unfinished charging roller" Similarly, US 6,035,171 (Takaya) determines a hardness of 68 degrees according to JISK-6301 with a hardness meter Asker C and a load of 1 kgf. Takaya, col. 15, lines 26-27. US 6,459,878 B1 (Tomoyuki) determines a hardness of 55 degrees or lower using an ASKER-C hardness Meter under a load of 600 g. Tomoyuki, col. 11, lines 63-65. The instant specification does not disclose that the Asker C hardness is determined by any of those standards mentioned in the prior art. The Asker C degree of hardness appears to depend on the load applied and standard used. Because the specification does not disclose the conditions under which the hardness is determined, the disclosure is inadequate to inform the ordinary worker in the art of all the information necessary to make and use the claimed invention.

In view of the evidence on the present record, because the specification does not disclose how the Asker C rubber hardness is determined, nor what standard is used to determine the rubber hardness, it would require undue experimentation for a person having ordinary skill to determine the rubber hardness recited in the instant claims.

The experimental conditions under which the Asker C rubber hardness are determined are essential subject matter since they are necessary to describe and enable the instant claimed subject matter. Essential subject matter must be disclosed in the specification as filed.

Applicants are reminded that essential subject matter cannot be incorporated by reference to non-patent literature, but must be fully disclosed in the specification as filed.

MPEP 608.01(p)A, 8th edition, Aug. 2001.

Appropriate correction is required.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

(1) In claim 13, the recitation "fixing apparatus" lacks antecedent basis in the specification. See page 7, lines 3-4, and page 24, line 1, of the specification, which discloses fixing

the transferred image on a recording medium using a "heat roller and a press roller." The fixing apparatus recited in instant claim 13 is broader than the disclosed heating roller and press roller, because it includes other fixing apparatuses, such as a flash fusing apparatus.

(2) In claim 13, the recitation "fixing apparatus comprises a releasing resin" lacks antecedent basis in the specification, See page 7, lines 4-6, and page 24, line 3, the specification, which discloses that the surfaces of a heat roller and press roller "are formed of a fluorine resin." As discussed in item (1) above, the fixing apparatus recited in claim 13 is broader than the disclosed rollers. In addition, the "releasing resin" recited in claim 13 is also broader than the disclosed fluorine resin, because it includes silicone resins.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 13 and 15-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is indefinite in the phrase "fixing apparatus comprises a releasing resin, and a releasing liquid is not substantially supplied to the surface thereof" (emphasis added) because it is not clear what component of the apparatus has a releasing resin. Nor is it clear what component in the fixing apparatus is supplied with "substantially" no releasing liquid.

Claim 15 is indefinite in the phrase "the toner image formed on the recording material" (emphasis added) for lack of antecedent basis in claim 13. Claim 13 discloses forming a toner image on a latent image holding member, not a recording material. It is not clear to what the "recording material" refers, e.g., a latent image holding member or the transfer material.

If the recording material refers to the transfer member recited in instant claim 13, it is not clear whether the toner image defined in instant claim 15 refers to that before or after fixing.

Claims 16-18 are indefinite because it is not clear whether the claim requires either the heat roller or the press roller to comprise a releasing resin, or both. It is also not clear whether claim 16 requires that the releasing liquid not be "substantially" applied to either the heat roller or the press roller, or to both.

Claim 19 is indefinite in the phrase "each of the heat roller and the press roller has an elastic layer and a surface

layer on a core" (emphasis added) because it is not clear whether the claim requires that the surface layer, the elastic layer, or the core, or combinations thereof comprise the releasing resin recited in claim 13.

Claims 18 and 19 are further indefinite in the phrases "a rubber hardness of from 55 to 85 [claim 19: 10 to 40] degrees by Asker C" (emphasis added) because it is not clear what is the scope of said limitations. Neither the instant claims nor the instant specification define the conditions under which the recited rubber hardness by Asker C are determined. See the discussion in paragraph 6, item (2), supra.

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Instant claims 18 and 19 recite a rubber hardness of from 55 to 85 degrees and from 10 to 40 degrees, respectively, by Asker C.

The instant specification does not disclose adequately how the Asker C hardness is determined. The specification at page 8, lines 18-19 and 24, and page 24, lines 10 and 13, merely discloses the values of Asker C hardness recited in the instant claims. The specification is silent as to the experimental conditions under which the hardness is determined. The specification does not disclose that the Asker C hardness is determined by any particular known standard. As argued in paragraph 6, supra, the Asker C hardness appears to be dependent on the standard used and on the load applied to determine the hardness. The specification gives no guidance on what load is used. The working examples merely recite the values of Asker C hardness. Nor does the specification disclose what standard should be used to determine the Asker C hardness. In addition, as discussed in paragraph 6 above, the prior art discloses more than one standard to determine Asker C hardness. Moreover, the standards do not appear to be the same. Because of (1) the infinite choices of applied loads, (2) the different standards used in determining the Asker C hardness, and (3) the total lack of guidance from the instant specification, it would require undue experimentation for a person having ordinary skill to

determine the experimental parameters needed to obtain the instant claimed numerical ranges of Asker C hardness.

12. Claims 1-6 and 12 are allowable over the prior art of record.

Claims 13 and 15-17 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest a toner as recited in instant claim 1 for the reasons set forth in paragraph 2, supra. Nor does the prior art teach or suggest a toner comprising inorganic particles as recited in instant claim 11.

13. Applicant's response filed in Paper No. 8 necessitated the rejoining of claims 13 and 15-19 (see MPEP 821.04, page 800-64, first full paragraph at column 2) and necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).


Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.


JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500
1700

JLD
November 4, 2002